Fundamentals of Financial Management Concise Edition 9th edition Brigham Solutions Manual

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Chapter 1
An Overview of Financial Management

Learning Objectives

After reading this chapter, students should be able to:

- Explain the role of finance and the different types of jobs in finance.
- Identify the advantages and disadvantages of different forms of business organization.
- Explain the links between stock price, intrinsic value, and executive compensation.
- Identify the potential conflicts that arise within the firm between stockholders and managers and between stockholders and bondholders, and discuss the techniques that firms can use to mitigate these potential conflicts.
- Discuss the importance of business ethics and the consequences of unethical behavior.

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Lecture Suggestions

Chapter 1 covers some important concepts, and discussing them in class can be interesting. However, students can read the chapter on their own, so it can be assigned but not covered in class.

We spend the first day going over the syllabus and discussing grading and other mechanics relating to the course. To the extent that time permits, we talk about the topics that will be covered in the course and the structure of the book. We also discuss briefly the fact that it is assumed that managers try to maximize stock prices, but that they may have other goals, hence that it is useful to tie executive compensation to stockholder-oriented performance measures. If time permits, we think it's worthwhile to spend at least a full day on the chapter. If not, we ask students to read it on their own, and to keep them honest, we ask one or two questions about the material on the first exam.

One point we emphasize in the first class is that students should print a copy of the *PowerPoint* slides for each chapter covered and purchase a financial calculator immediately, and bring both to class regularly. We also put copies of the various versions of our "Brief Calculator Manual," which in about 12 pages explains how to use the most popular calculators, in the copy center. Students will need to learn how to use their calculators before time value of money concepts are covered in Chapter 5. It is important for students to grasp these concepts early as many of the remaining chapters build on the TVM concepts.

We are often asked what calculator students should buy. If they already have a financial calculator that can find IRRs, we tell them that it will do, but if they do not have one, we recommend either the HP-10BII+ or 17BII+. Please see the "Lecture Suggestions" for Chapter 5 for more on calculators.

DAYS ON CHAPTER: 1 OF 56 DAYS (50-minute periods)

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Answers to End-of-Chapter Questions

1-1 A firm's intrinsic value is an estimate of a stock's "true" value based on accurate risk and return data. It can be estimated but not measured precisely. A stock's current price is its market price—the value based on perceived but possibly incorrect information as seen by the marginal investor. From these definitions, you can see that a stock's "true" long-run value is more closely related to its intrinsic value rather than its current price.

1-2 Equilibrium is the situation where the actual market price equals the intrinsic value, so investors are indifferent between buying and selling a stock. If a stock is in equilibrium then there is no fundamental imbalance, hence no pressure for a change in the stock's price. At any given time, most stocks are reasonably close to their intrinsic values and thus are at or close to equilibrium. However, at times stock prices and equilibrium values are different, so stocks can be temporarily undervalued or overvalued. Investor optimism and pessimism, along with imperfect knowledge about the true intrinsic value, leads to deviations between the actual prices and intrinsic values.

1-3 If the three intrinsic value estimates for Stock X were different, you would have the most confidence in Company X's CFO's estimate. Intrinsic values are strictly estimates, and different analysts with different data and different views of the future will form different estimates of the intrinsic value for any given stock. However, a firm's managers have the best information about the company's future prospects, so managers' estimates of intrinsic value are generally better than the estimates of outside investors.

1-4 If a stock's market price and intrinsic value are equal, then the stock is in equilibrium and there is no pressure (buying/selling) to change the stock's price. So, theoretically, it is better that the two be equal; however, intrinsic value is a long-run concept. Management's goal should be to maximize the firm's intrinsic value, not its current price. So, maximizing the intrinsic value will maximize the average price over the long run but not necessarily the current price at each point in time. So, stockholders in general would probably expect the firm's market price to be under the intrinsic value—realizing that if management is doing its job that current price at any point in time would not necessarily be maximized. However, the CEO would prefer that the market price be high—since it is the current price that he will receive when exercising his stock options. In addition, he will be retiring after exercising those options, so there will be no repercussions to him (with respect to his job) if the market price drops—unless he did something illegal during his tenure as CEO.

1-5 The board of directors should set CEO compensation dependent on how well the firm performs. The compensation package should be sufficient to attract and retain the CEO but not go beyond what is needed. Compensation should be structured so that the CEO is rewarded on the basis of the stock's performance over the long run, not the stock's price on an option exercise date. This means that options (or direct stock awards) should be phased in over a number of years so the CEO will have an incentive to keep the stock price high over time. If the intrinsic value could be measured in an objective and verifiable manner, then performance pay could be based on changes in intrinsic value. However, it is easier to measure the growth rate in reported profits than the intrinsic value, although reported profits can be manipulated through aggressive accounting procedures and intrinsic value cannot be manipulated. Since intrinsic value is not observable, compensation must be based on the stock's market price—but the price used should be an average over time rather than on a specific date.

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1-6 The different forms of business organization are proprietorships, partnerships, corporations, and limited liability corporations and partnerships. The advantages of the first two include the ease and low cost of formation. The advantages of corporations include limited liability, indefinite life, ease of ownership transfer, and access to capital markets. Limited liability companies and partnerships have limited liability like corporations.

The disadvantages of a proprietorship are (1) difficulty in obtaining large sums of capital; (2) unlimited personal liability for business debts; and (3) limited life. The disadvantages of a partnership are (1) unlimited liability, (2) limited life, (3) difficulty of transferring ownership, and (4) difficulty of raising large amounts of capital. The disadvantages of a corporation are (1) double taxation of earnings and (2) setting up a corporation and filing required state and federal reports, which are complex and time-consuming. Among the disadvantages of limited liability corporations and partnerships are difficulty in raising capital and the complexity of setting them up.

1-7 Stockholder wealth maximization is a long-run goal. Companies, and consequently the stockholders, prosper by management making decisions that will produce long-term earnings increases. Actions that are continually shortsighted often "catch up" with a firm and, as a result, it may find itself unable to compete effectively against its competitors. There has been much criticism in recent years that U.S. firms are too short-run profit-oriented. A prime example is the U.S. auto industry, which has been accused of continuing to build large "gas guzzler" automobiles because they had higher profit margins rather than retooling for smaller, more fuel-efficient models.

1-8 Useful motivational tools that will aid in aligning stockholders' and management's interests include: (1) reasonable compensation packages, (2) direct intervention by shareholders, including firing managers who don't perform well, and (3) the threat of takeover.

The compensation package should be sufficient to attract and retain able managers but not go beyond what is needed. Also, compensation packages should be structured so that managers are rewarded on the basis of the stock's performance over the long run, not the stock's price on an option exercise date. This means that options (or direct stock awards) should be phased in over a number of years so managers will have an incentive to keep the stock price high over time. Since intrinsic value is not observable, compensation must be based on the stock's market price—but the price used should be an average over time rather than on a specific date.

Stockholders can intervene directly with managers. Today, the majority of stock is owned by institutional investors and these institutional money managers have the clout to exercise considerable influence over firms' operations. First, they can talk with managers and make suggestions about how the business should be run. In effect, these institutional investors act as lobbyists for the body of stockholders. Second, any shareholder who has owned $2,000 of a company's stock for one year can sponsor a proposal that must be voted on at the annual stockholders' meeting, even if management opposes the proposal. Although shareholder-sponsored proposals are non-binding, the results of such votes are clearly heard by top management.

If a firm's stock is undervalued, then corporate raiders will see it to be a bargain and will attempt to capture the firm in a hostile takeover. If the raid is successful, the target's executives will almost certainly be fired. This situation gives managers a strong incentive to take actions to maximize their stock's price.

1-9 **a.** Corporate philanthropy is always a sticky issue, but it can be justified in terms of helping to create a more attractive community that will make it easier to hire a productive work force. This corporate philanthropy could be received by stockholders negatively, especially those stockholders not living in its headquarters city. Stockholders are interested in actions that maximize share price, and if competing firms are not making similar contributions, the "cost" of this philanthropy has to be borne by someone—the stockholders. Thus, stock price could decrease.

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b. Companies must make investments in the current period in order to generate future cash flows. Stockholders should be aware of this, and assuming a correct analysis has been performed, they should react positively to the decision. The Chinese plant is in this category. Capital budgeting is covered in depth in Part 4 of the text. Assuming that the correct capital budgeting analysis has been made, the stock price should increase in the future.

c. U.S. Treasury bonds are considered safe investments, while common stocks are far more risky. If the company were to switch the emergency funds from Treasury bonds to stocks, stockholders should see this as increasing the firm's risk because stock returns are not guaranteed—sometimes they increase and sometimes they decline. The firm might need the funds when the prices of their investments were low and not have the needed emergency funds. Consequently, the firm's stock price would probably fall.

1-10 **a.** No, TIAA-CREF is not an ordinary shareholder. Because it is one of the largest institutional shareholders in the United States and it controls more than $350 billion in pension funds, its voice carries a lot of weight. This "shareholder" in effect consists of many individual shareholders whose pensions are invested with this group.

b. For TIAA-CREF to be effective in wielding its weight, it must act as a coordinated unit. In order to do this, the fund's managers should solicit from the individual shareholders their "votes" on the fund's practices, and from those "votes" act on the majority's wishes. In so doing, the individual teachers whose pensions are invested in the fund have, in effect, determined the fund's voting practices.

1-11 Earnings per share in the current year will decline due to the cost of the investment made in the current year and no significant performance impact in the short run. However, the company's stock price should increase due to the significant cost savings expected in the future.

1-12 The board of directors should set CEO compensation dependent on how well the firm performs. The compensation package should be sufficient to attract and retain the CEO but not go beyond what is needed. Compensation should be structured so that the CEO is rewarded on the basis of the stock's performance over the long run, not the stock's price on an option exercise date. This means that options (or direct stock awards) should be phased in over a number of years so the CEO will have an incentive to keep the stock price high over time. If the intrinsic value could be measured in an objective and verifiable manner, then performance pay could be based on changes in intrinsic value. Since intrinsic value is not observable, compensation must be based on the stock's market price—but the price used should be an average over time rather than on a specific date. The board should probably set the CEO's compensation as a mix between a fixed salary and stock options. The actions of the vice president of Company X would be different than if he were CEO of some other company.

1-13 Setting the compensation policy for three division managers would be different than setting the compensation policy for a CEO because performance of each of these managers could be more easily observed. For a CEO an award based on stock price performance makes sense, while basing the compensation for division managers on stock price performance doesn't make sense. Each of the managers could still be given stock awards; however, rather than the award being based on stock price it could be determined from some observable measure like increased gas output, oil output, etc.

1-14 **a.** The expected payoff to debtholders is $77 million. The expected payoff to stockholders is (0.5 × $13 million + 0.5 × $53 million) = $33 million. If management selects Project L, then the firm will have enough cash flow to fully pay debtholders the promised $77 million, regardless of

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the state of the economy. The stockholders receive the cash flows that are available after the debtholders have been paid.

b. The expected payoff to debtholders is (0.5 × $50 million + 0.5 × $77 million) = $63.5 million. The expected payoff to stockholders is (0.5 × 0 + 0.5 × $93) = $46.5 million. If management selects Project H and the economy is weak, then the company will not have enough cash to fully pay off its debts. In this case, the debtholders would receive all of the available cash ($50 million) and there will be nothing left over for the stockholders. If the economy is strong, there will be enough cash to fully pay off the debtholders and the stockholders will receive all the remaining cash ($170 million – $77 million = $93 million).

c. The bondholders would clearly prefer that the company select Project L, since it would give them a higher cash flow and less risk.

d. Even though Project L and Project H have the same overall expected payoff, Project H shifts the distribution of the firm's cash flow payoffs from debtholders to stockholders. So, in many instances, despite the higher risk, stockholders may prefer Project H because it provides them with a significantly higher expected payoff.

e. Bondholders attempt to protect themselves by including covenants in the bond agreements that limit firms' use of additional debt and constraining managers' actions (such as taking on risky projects to the detriment of bondholders) in other ways.

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Chapter 2

Financial Markets and Institutions

- The Capital Allocation Process
- Financial Markets
- Financial Institutions
- Stock Markets and Returns
- Stock Market Efficiency

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How is capital transferred between savers and borrowers?

- Direct transfers
- Investment banks
- Financial intermediaries

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The Capital Allocation Process

- In a well-functioning economy, capital flows efficiently from those who supply capital to those who demand it.
- Suppliers of capital: individuals and institutions with "excess funds." These groups are saving money and looking for a rate of return on their investment.
- Demanders or users of capital: individuals and institutions who need to raise funds to finance their investment opportunities. These groups are willing to pay a rate of return on the capital they borrow.

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What is a market?

- A market is a venue where goods and services are exchanged.
- A financial market is a place where individuals and organizations wanting to borrow funds are brought together with those having a surplus of funds.

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Types of Financial Markets

- Physical assets vs. Financial assets
- Spot vs. Futures
- Money vs. Capital
- Primary vs. Secondary
- Public vs. Private

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The Importance of Financial Markets

- Well-functioning financial markets facilitate the flow of capital from investors to the users of capital.
  - Markets provide savers with returns on their money saved/invested, which provide them money in the future.
  - Markets provide users of capital with the necessary funds to finance their investment projects.
- Well-functioning markets promote economic growth.
- Economies with well-developed markets perform better than economies with poorly-functioning markets.

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What are derivatives? How can they be used to reduce or increase risk?

- A derivative security's value is "derived" from the price of another security (e.g., options and futures).
- Can be used to "hedge" or reduce risk. For example, an importer, whose profit falls when the dollar loses value, could purchase currency futures that do well when the dollar weakens.
- Also, speculators can use derivatives to bet on the direction of future stock prices, interest rates, exchange rates, and commodity prices. In many cases, these transactions produce high returns if you guess right, but large losses if you guess wrong. Here, derivatives can increase risk.

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Types of Financial Institutions

- Investment banks
- Commercial banks
- Financial services corporations
- Pension funds
- Mutual funds
- Exchange traded funds
- Hedge funds
- Private equity funds

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Physical Location Stock Exchanges vs. Electronic Dealer-Based Markets

- Auction market vs. dealer market (exchanges vs. OTC)
- NYSE vs. Nasdaq
- Differences are narrowing

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Stock Market Transactions

- Apple Computer decides to issue additional stock with the assistance of its investment banker. An investor purchases some of the newly issued shares. Is this a primary market transaction or a secondary market transaction?
  - Since new shares of stock are being issued, this is a primary market transaction.
- What if instead an investor buys existing shares of Apple stock in the open market. Is this a primary or secondary market transaction?
  - Since no new shares are created, this is a secondary market transaction.

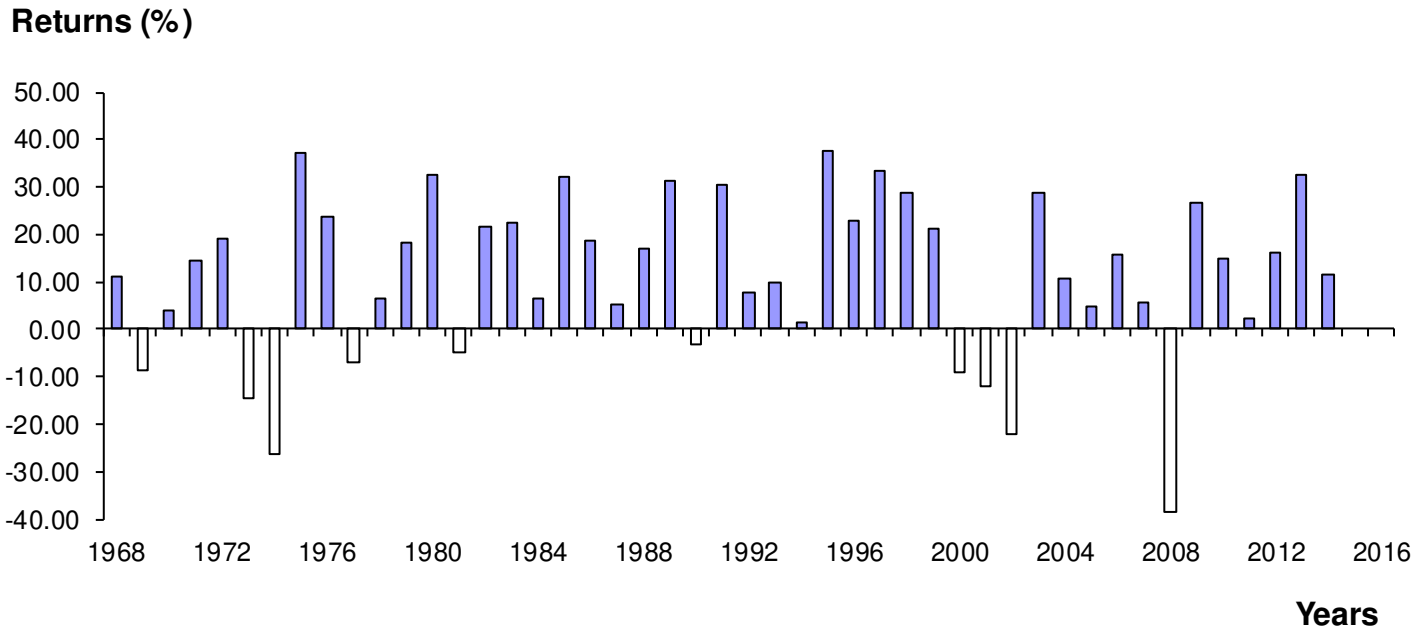
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What is an IPO?

- An initial public offering (IPO) occurs when a company issues stock in the public market for the first time.
- "Going public" enables a company's owners to raise capital from a wide variety of outside investors. Once issued, the stock trades in the secondary market.
- Public companies are subject to additional regulations and reporting requirements.

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S&P 500 Index, Total Returns: Dividend Yield + Capital Gain or Loss, 1968-2014



Source: Data taken from various issues of *The Wall Street Journal* "Investment Scoreboard" section.

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Where can you find a stock quote, and what does one look like?

- Stock quotes can be found in a variety of print sources (*The Wall Street Journal* or the local newspaper) and online sources (Yahoo! Finance, CNN Money, or MSN Money).

Stock Quote for Twitter, Inc., March 9, 2015

Twitter, Inc. (TWTR) - NYSE ★ Watchlist

47.62 ↑0.87 (1.87%) 12:03PM EDT - Nasdaq Real Time Price

Prev Close:	46.75	Day's Range:	47.13 - 48.08
Open:	47.22	52wk Range:	29.51 - 55.99
Bid:	47.83 x 200	Volume:	7,531,031
Ask:	47.84 x 900	Avg Vol (3m):	20,498,600
1y Target Est:	53.00	Market Cap:	30.36B
Beta:	N/A	P/E (ttm):	N/A
Earnings Date:	Apr 27 - May 1 (Est.)	EPS (ttm):	-0.96
		Div & Yield:	N/A (N/A)



Quotes delayed, except where indicated otherwise. Currency in USD.

Source: Twitter, Inc. (TWTR), finance.yahoo.com.

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What is meant by stock market efficiency?

- Securities are normally in equilibrium and are "fairly priced."
- Investors cannot "beat the market" except through good luck or better information.
- Efficiency continuum



Small companies not followed by many analysts. Not much contact with investors.

Large companies followed by many analysts. Good communications with investors.

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Implications of Market Efficiency

You hear in the news that a medical research company received FDA approval for one of its products. If the market is highly efficient, can you expect to take advantage of this information by purchasing the stock?

- No. If the market is efficient, this information will already have been incorporated into the company's stock price. So, it's probably too late for her to "capitalize" on the information.

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Implications of Market Efficiency

A small investor has been reading about a "hot" IPO that is scheduled to go public later this week. She wants to buy as many shares as she can get her hands on, and is planning on buying a lot of shares the first day once the stock begins trading. Would you advise her to do this?

- Probably not. The long-run track record of hot IPOs is not that great, unless you are able to get in on the ground floor and receive an allocation of shares before the stock begins trading. It is usually hard for small investors to receive shares of hot IPOs before the stock begins trading.

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Possible Reasons Markets May Not Be Efficient

- It is costly and/or risky for traders to take advantage of mispriced assets.
- Cognitive biases cause investors to make systematic mistakes that lead to inefficiencies. This is an area of research know as "behavioral finance." **Behavioral finance** borrows insights from psychology to better understand how irrational behavior can be sustained over time. Some examples include:
  - Evaluating risks differently in up and down markets.
  - Overconfidence leads to self-attribution bias and hindsight bias.

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